

**REMARKS**

Claims 32, 40, and 50 have been amended. Withdrawn claims 51, 60, 61, and 63 have been canceled. Claims 32, 36, 38-40, 42, 44-48, and 50 remain pending. Applicants reserve the right to pursue the original claims and other claims in this and other applications. Applicants respectfully request reconsideration of the above-referenced application in light of the amendments and following remarks.

Claims 32, 36 and 38-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,200,734 ("Blatchford") in view of U.S. Patent No. 5,733,712 ("Tanaka"). The rejection is respectfully traversed.

Applicants respectfully submit that the cited combination does not disclose, teach or suggest the claimed invention. Specifically, the references do not teach or suggest an integrated circuit comprising, *inter alia*, "an opening formed in said dielectric layer to expose said second anti-reflective coating layer; and a metal layer formed over said dielectric layer and into said opening," as recited in claim 32. Neither Blatchford nor Tanaka teach or suggest at least these features.

Blatchford discloses a structure with a metal layer 18, an anti-reflective coating structure 17 consisting of three separate layers 13-15, an optional oxynitride layer 19 formed on anti-reflective coating structure 17, and a *photoresist layer* 16 formed on oxynitride layer 19. Blatchford does not teach or suggest "an opening formed in said dielectric layer to expose said second anti-reflective coating layer; and a metal layer formed over said dielectric layer and into said opening," as recited in claim 32. Blatchford's *photoresist layer* 16 is formed over the anti-reflective coating layers 13-15 and the optional oxynitride layer 19.

Tanaka is relied upon for disclosing known antireflection methods that utilize light interference to prevent reflection and that the reflectivity of interfaces be equal and of opposite phase to cancel the reflected light from those interfaces. Tanaka, however, does not add anything to rectify the deficiencies associated with Blatchford. Namely, both Blatchford and Tanaka fail to disclose or suggest "an opening formed in said dielectric layer to expose said second anti-reflective coating layer; and a metal layer formed over said dielectric layer and into said opening," as recited in claim 32.

As such, the cited combination does not disclose or suggest an integrated circuit comprising, *inter alia*, "a reflective layer . . . a first anti-reflective coating layer formed over the reflective layer . . . a second anti-reflective coating layer formed over said first anti-reflective coating layer . . . a dielectric layer formed on said second anti-reflective coating layer; an opening formed in said dielectric layer to expose said second anti-reflective coating layer; and a metal layer formed over said dielectric layer and into said opening," as recited in claim 32.

Claims 36 and 38-39 depend from claim 32 and are allowable with claim 32 for at least the reasons provided above, and on their own merits.

Claims 40, 42, 44, 45, and 47-48 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Blatchford in view of U.S. Patent No. 6,255,151 ("Fukuda"). The rejection is respectfully traversed.

For similar reasons provided above, Blatchford does not teach or suggest a memory cell comprising, *inter alia*, "an insulating layer formed on the second anti-reflective coating layer; an opening formed in said insulating layer to expose said second anti-reflective coating layer; and a metal layer formed over said insulating layer

and into said opening,” as recited in claim 40. Blatchford’s *photoresist layer 16* is formed over the anti-reflective coating layers 13-15 and the optional oxynitride layer 19.

Fukuda is relied upon for disclosing memory cells of a DRAM with an active region, gate oxide, gate electrode, word line, source/drain pair, capacitors, and a bit line. Fukuda, however, does not add anything to rectify the deficiencies associated with Blatchford. Namely, the cited combination fails to disclose or suggest “an opening formed in said insulating layer to expose said second anti-reflective coating layer; and a metal layer formed over said insulating layer and into said opening,” as recited in claim 40.

Moreover, Applicants respectfully submit that there is no motivation to combine Blatchford and Fukuda to arrive at the claimed invention. To establish a *prima facie* case of obviousness, a determination of obviousness “must involve more than indiscriminately combining prior art; a motivation or suggestion to combine must exist.” *Pro-Mold & Tool Co.*, 75 F.3d at 1573.

In this case, there is no teaching, suggestion, or motivation to combine the cited references. For example, Blatchford is directed to the formation of an anti-reflective coating between a *non-planar substrate* and a *photoresist layer* “to alleviate the problems caused by non-uniform reflection at the substrate surface during exposure of the photoresist layer.” (Abstract) (emphasis added). Fukuda, by contrast, relates to the creation of an offset between a cell array and a peripheral circuit region of a memory cell (Col. 1, l. 66 through Col. 2, l. 2). The only element in which Blatchford and Fukuda share is the semiconductor substrate on which their respective structures are formed. A person of ordinary skill in the art would not have been motivated to combine the cited references since the references are directed to solving entirely different problems.

"A statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art' at the time the claimed invention was made because the references relied upon teach that all aspects of the claimed invention were individually known in the art is *not sufficient* to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references." M.P.E.P. § 2143.02 (emphasis added). In this case, there is no objective reasoning to combine the cited references. It is impermissible hindsight reconstruction to combine the references in the manner suggested by the Office Action.

Moreover, even if the references are properly combinable, which they are not, they still would not disclose or suggest a memory cell comprising, *inter alia*, "a structure on a substrate . . . [with] at least two active areas . . . a gate stack . . . a capacitor . . . a first anti-reflective coating layer . . . a second anti-reflective coating layer formed on at least a portion of the first anti-reflective coating layer . . . an insulating layer formed on the second anti-reflective coating layer; an opening formed in said insulating layer to expose said second anti-reflective coating layer; and a metal layer formed over said insulating layer and into said opening," as recited in claim 40.

Claims 42, 44-45, and 47-48 depend from claim 40 and are allowable along with claim 40 for at least the reasons provided above, and on their own merits. Accordingly, the rejection should be withdrawn and the claims allowed.

Claim 46 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Blatchford and Fukuda, and further in view of U.S. Patent No. 6,140,179 ("Chen"). The rejection is respectfully traversed.

Claim 46 depends from claim 40 and is similarly allowable along with claim 40 for at least the reasons provided above, and on its own merits. Specifically,

Blatchford and Fukuda do *not* disclose or suggest a memory cell comprising “an insulating layer formed on [a] second anti-reflective coating layer; an opening formed in said insulating layer to expose said second anti-reflective coating layer; and a metal layer formed over said insulating layer and into said opening.” Blatchford’s *photoresist layer* 16 is formed over the anti-reflective coating layers 13-15 and the optional oxynitride layer 19. Chen is relied upon for disclosing container capacitors and adds nothing to rectify the structural deficiencies of Blatchford and Fukuda. Accordingly, the rejection should be withdrawn and claim 46 allowed.

Claim 50 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Blatchford in view of U.S. Patent No. 6,287,959 (“Lyons”) and Fukuda. The rejection is respectfully traversed.

For similar reasons provided above, Blatchford and Fukuda do not teach or suggest the subject matter recited in claim 50. Specifically, Blatchford and Fukuda do not disclose or suggest an integrated circuit comprising, *inter alia*, “an insulating layer formed on the etch stop layer; an opening formed in said insulating layer to expose said second anti-reflective coating layer; and a metal layer formed over said insulating layer and into said opening,” as recited in claim 50.

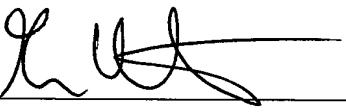
Blatchford’s *photoresist layer* 16 is formed over the anti-reflective coating layers 13-15 and the optional oxynitride layer 19. There is also no motivation to combine Blatchford and Fukuda since the references are directed to solving entirely different problems. Lyons is relied upon for disclosing that silicon oxynitride can be used as a successful etch stop, and adds nothing to rectify the structural deficiencies of Blatchford and Fukuda.

Moreover, even if the references are properly combinable, which they are not, they still fail to disclose or suggest a memory cell comprising, *inter alia*, "an etch stop layer comprising: a first anti-reflective coating layer formed over [a] structure; a second anti-reflective layer formed over at least a portion of the first anti-reflective coating layer; an insulating layer formed on the etch stop layer; an opening formed in said insulating layer to expose said second anti-reflective coating layer; and a metal layer formed over said insulating layer and into said opening," as recited in claim 50. Accordingly, the rejection should be withdrawn and claim 50 allowed.

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

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Respectfully submitted,

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